



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CLASS II SYNTHETIC MINOR PERMIT

COMPANY: *Phelps Dodge Safford, Inc.*
FACILITY: *Phelps Dodge Safford Mine*
PERMIT #: *38109*
DATE ISSUED: *Draft*
EXPIRY DATE:

SUMMARY

This Class II, synthetic minor operating permit is issued to Phelps Dodge Safford, Inc., for the operation of its Safford Mine facility.

Phelps Dodge, Safford, Inc. (PDSI) plans to construct and operate an open-pit copper mining, metallic minerals crushing, heap leach, solution extraction/electrowinning facility, located approximately 8 miles north-northeast of Safford, Graham County, Arizona. The facility will feature two open pit mines (Dos Pobres and San Juan) which will be located northeast of a single leach pad. The facility is anticipated to have an 18-year operating life with a total lifetime production of approximately 961 million tons of ore and development rock.

This facility has the potential to emit, before controls, more than 100 tons per year (tpy) of Particulate Matter and Nitrogen Oxides (NO_x). PDSI is accepting voluntary emission and operating limits to stay below the major source thresholds for these pollutants. Therefore, a synthetic minor Class II permit is required under Arizona Administrative Code (A.A.C.) R18-2-302.B.2.a.iii.

This permit is issued in accordance with Arizona Revised Statutes (A.R.S.) 49-426. It contains requirements from A.A.C. Title 18, Chapter 2 and the Code of Federal Regulations (CFR).

TABLE OF CONTENTS

ATTACHMENT “A”: GENERAL PROVISIONS	3
I. PERMIT EXPIRATION AND RENEWAL.....	3
II. COMPLIANCE WITH PERMIT CONDITIONS	3
III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE.....	3
IV. POSTING OF PERMIT	4
V. FEE PAYMENT	4
VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE	4
VII. COMPLIANCE CERTIFICATION	4
VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS	5
IX. INSPECTION AND ENTRY	5
X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD.....	6
XI. ACCIDENTAL RELEASE PROGRAM.....	6
XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING..	6
XIII. RECORD KEEPING REQUIREMENTS	11
XIV. REPORTING REQUIREMENTS	12
XV. DUTY TO PROVIDE INFORMATION.....	12
XVI. PERMIT AMENDMENT OR REVISION.....	12
XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION.....	13
XVIII. TESTING REQUIREMENTS	15
XIX. PROPERTY RIGHTS.....	17
XX. SEVERABILITY CLAUSE	17
XXI. PERMIT SHIELD.....	17
ATTACHMENT “B”: SPECIFIC CONDITIONS	19
I. RELATIONSHIP OF PERMIT TO APPLICABLE STATE IMPLEMENTATION PLAN	19
II. FACILITY WIDE REQUIREMENTS	19
III. METALLIC MINERAL PROCESSING.....	20
IV. SOLUTION EXTRACTION/ELECTROWINNING PROCESS (SX/EW)	26
V. FUEL-BURNING EQUIPMENT	27
VI. INTERNAL COMBUSTION ENGINES	29
VII. GASOLINE STORAGE AND DISPENSING	32
VIII. DIESEL STORAGE VESSELS	32
IX. FUGITIVE DUST SOURCES.....	33
X. MOBILE SOURCES	35
XI. ABRASIVE BLASTING.....	36
XII. SPRAY PAINTING OPERATIONS	37
ATTACHMENT “C”: EQUIPMENT LIST	39

ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit No. 38109 For Phelps Dodge Safford, Inc.

I. PERMIT EXPIRATION AND RENEWAL

[ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

- A.** This permit is valid for a period of five years from the date of issuance.
- B.** The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a and b]

- A.** The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B.** It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c, -321.A.1.c-d, and -321.A.2]

- A.** The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- B.** The permit shall be reopened and revised under any of the following circumstances
 - 1.** The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - 2.** The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

- C. Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings shall not result in a resetting of the five-year permit term.

IV. POSTING OF PERMIT

[A.A.C. R18-2-315]

- A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:
1. Current permit number; or
 2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.
- B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT

[A.A.C. R18-2-306.A.9 and -326]

The Permittee shall pay fees to the Director pursuant to ARS § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A and B]

- A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.
- B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

- A. The Permittee shall submit a compliance certification to the Director semiannually which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than October 15th, and shall report the compliance status of the source during the period between March 16th and September 15th of the current year. The second certification shall be submitted no later than April 15th, and shall report the compliance status of the source during the period between September 16th of the previous year and March 15th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;
 2. The Identification of the methods or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;
 3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the methods and means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take into account for consideration in the compliance certification;
 4. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and
 5. Other facts the Director may require determining the compliance status of the source.
- B.** A progress report on all outstanding compliance schedules shall be submitted every six months beginning with six months after permit issuance.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

- A.** Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
- B.** Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- C.** Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- D.** Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM

[40 CFR Part 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting

[A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:

a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

(1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.

(2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a.(1) above.

b. The report shall contain the following information:

(1) Identity of each stack or other emission point where the excess emissions occurred;

(2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

(3) Date, time and duration, or expected duration, of the excess emissions;

- (4) Identity of the equipment from which the excess emissions emanated;
 - (5) Nature and cause of such emissions;
 - (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and
 - (7) Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.
2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

[A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

[A.A.C. R18-2-306.E]

1. An “emergency” means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was being properly operated at the time;
 - c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

[A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

- a. Promulgated pursuant to Sections 111 or 112 of the Act;
- b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;

- c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;
- d. Contained in A.A.C. R18-2-715.F; or
- e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

- a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;
- b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
- c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;
- d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
- e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

- h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;
- i. All emissions monitoring systems were kept in operation if at all practicable; and
- j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records

3. Affirmative Defense for Startup and Shutdown

- a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:
 - (1) The excess emissions could not have been prevented through careful and prudent planning and design;
 - (2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;
 - (3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
 - (4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
 - (5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
 - (6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

- (7) All emissions monitoring systems were kept in operation if at all practicable; and
 - (8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.
- b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.
- 4. Affirmative Defense for Malfunctions During Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.
- 5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

- A.** The Permittee shall keep records of all required monitoring information including, but not limited to, the following:
 - 1. The date, place as defined in the permit, and time of sampling or measurements;
 - 2. The date(s) analyses were performed;
 - 3. The name of the company or entity that performed the analyses;
 - 4. A description of the analytical techniques or methods used;
 - 5. The results of such analyses; and
 - 6. The operating conditions as existing at the time of sampling or measurement.
- B.** The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

- C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

- A. Compliance certifications in accordance with Section VII of Attachment "A".
- B. Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment "A".
- C. Other reports required by any condition of Attachment "B".

XV. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G and -306.A.8.e]

- A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.
- B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-317.01, -318, -319, and -320]

The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

- A. Facility Changes that Require a Permit Revision - Class II (A.A.C. R18-2-317.01);
- B. Administrative Permit Amendment (A.A.C. R18-2-318);
- C. Minor Permit Revision (A.A.C. R18-2-319); and
- D. Significant Permit Revision (A.A.C. R18-2-320)

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

[A.A.C. R18-2-306.A.4 and -317.02]

- A.** Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under A.A.C. R18-2-317.01, or a change subject to logging or notice requirements in Conditions XVII.B and XVII.C below, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.
- B.** Except as otherwise provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source keeps on site records of the changes according to Appendix 3 of the Arizona Administrative Code:
1. Implementing an alternative operating scenario, including raw materials changes;
 2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;
 3. Engaging in any new insignificant activity listed in A.A.C. R18-2-101.57.a through A.A.C. R18-2-101.57.i but not listed in the permit;
 4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Director may require verification of efficiency of the new equipment by performance tests; and
 5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.
- C.** Except as provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source provides written notice to the Department in advance of the change as provided below:
1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: 7 days. The Director may require verification of efficiency of the new equipment by performance tests;
 2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: 7 days;
 3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests;

4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;
 5. A change that amounts to reconstruction of the source or an affected facility: 7 days. For the purposes of this subsection, reconstruction of a source or an affected facility shall be presumed if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and
 6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory threshold but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.
- D.** For each change under Condition XVII.C above, the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:
1. When the proposed change will occur;
 2. A description of the change;
 3. Any change in emissions of regulated air pollutants; and
 4. Any permit term or condition that is no longer applicable as a result of the change.
- E.** A source may implement any change in Condition XVII.C above without the required notice by applying for a minor permit revision under A.A.C. R18-2-319 and complying with subsection A.A.C. R18-2-319.D.2 and A.A.C. R18-2-319.G.
- F.** The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under Condition XVII.B.1.
- G.** Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, constitutes a change under subsection A.A.C. R18-2-317.01.A.
- H.** If a source change is described under both Conditions XVII.B and XVII.C above, the source shall comply with Condition XVII.C above. If a source change is described under

both Condition XVII.C above and A.A.C. R18-2-317.01.B, the source shall comply with A.A.C. R18-2-317.01.B.

- I.** A copy of all logs required under Condition XVII.B shall be filed with the Director within 30 days after each anniversary of the permit issuance date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.

J. Logging Requirements

[A.A.C. R18-2-306.A.4]

- 1.** Each log entry required by a change under Condition XVII.B shall include at least the following information:
 - a.** A description of the change, including:
 - (1)** A description of any process change;
 - (2)** A description of any equipment change, including both old and new equipment descriptions, model numbers, and serial numbers, or any other unique equipment ID number; and
 - (3)** A description of any process material change.
 - b.** The date and time that the change occurred.
 - c.** The provision of A.A.C. R18-2-317.02.B that authorizes the change to be made with logging.
 - d.** The date the entry was made and the first and last name of the person making the entry.
- 2.** Logs shall be kept for 5 years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially number pages, or in any other form, including electronic format, approved by the Director.

XVIII. TESTING REQUIREMENTS

[A.A.C. R18-2-312]

- A.** The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

B. Operational Conditions During Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute

representative operational conditions unless otherwise specified in the applicable standard.

- C.** Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;
2. Test location(s);
3. Test method(s); and
4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platform(s);
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an

irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to any minor revisions pursuant to Condition XVI.C of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

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ATTACHMENT “B”: SPECIFIC CONDITIONS

Air Quality Control Permit No. 38109 For *Phelps Dodge Safford, Inc.*

I. RELATIONSHIP OF PERMIT TO APPLICABLE STATE IMPLEMENTATION PLAN

This permit is issued pursuant to the provisions of the Arizona Revised Statutes (ARS) and constitutes an Installation Permit for the purpose of the applicable State Implementation Plan.

[ARS § 49-404.c and -426]

II. FACILITY WIDE REQUIREMENTS

A. Operating Limitations

1. The Permittee shall operate and maintain all equipment identified in Attachment “C” in accordance with manufacturer's specifications, or operating practices which conform with good air pollution control practices.
[A.A.C. R18-2-306.A.2]
2. Prior to commencing operations, the Permittee shall have on-site or on-call a person that is certified in EPA Reference Method 9 for the observation and evaluation of visible emissions.
[A.A.C. R18-2-306.A.3.c]
3. At least 90 days prior to commencing mining operations, the Permittee shall submit a visual observation plan to be approved by the Director. The observation plan shall identify a central lookout station or multiple observation points, as appropriate, from where the visible emission sources shall be monitored. When multiple observation points are used, all the visible emission sources associated with each observation point shall be specifically identified within the observation plan.
[A.A.C. R18-2-306.A.3.c]
4. At least 90 days prior to commencing mining operations, the Permittee shall submit a dust control plan to be approved by the Director. The dust control plan shall identify the control measures that will be used by the Permittee to control particulate matter emissions from unpaved roads, open areas and storage piles. The dust control plan shall identify the monitoring and recordkeeping conditions to track ongoing implementation of control measures. After initial approval, no changes shall be made to the dust control plan without prior approval from the Director.
[A.A.C. R18-2-306.A.3.c]
5. No later than 30 days after installation, or upon start-up, whichever is earlier, the Permittee shall provide the make, model and date of manufacture for such equipment as listed in Attachment “C”.
[A.A.C. R18-2-306.A.3.c]

B. Recordkeeping Requirements

1. The Permittee shall maintain, on-site, records of the manufacturer's specifications or industry standard practices for minimizing emissions for all air pollution control devices, fuel burning equipment, and IC engines as listed in Attachment "C".

[A.A.C. R18-2-306.A.4]

2. All records, analyses, and reports shall be retained for a minimum of five years from the date of generation. The most recent two years of data shall be kept on-site.

[A.A.C. R18-2-306.A.4]

C. Reporting Requirements

The Permittee shall submit reports of all monitoring activities required in Attachment "B" along with the compliance certifications required by Section VII of Attachment "A."

[A.A.C. R18-2-306.A.5]

III. METALLIC MINERAL PROCESSING

This Section applies to the crushers, screens, material handling facilities, fine ore storage and loaders and their associated pollution control equipment.

A. Particulate Matter

1. Emission Limitations/Standards

- a. The Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any process source subject to the provisions of this Section in total quantities in excess of the amounts calculated by one of the following equations:

- i. For process sources having a process weight rate of 30 tons per hour or less, the maximum allowable emissions shall be determined by the following equation:

$$E = 4.10P^{0.67}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

P = the process weight rate in tons-mass per hour.

[A.A.C. R18-2-721.B.1]

- ii. For process sources having a process weight rate greater than 30 tons per hour, the maximum allowable emissions shall be determined by the following equation:

$$E = 55.0P^{0.11}-40$$

Where E and P are defined as indicated in III.A.1.a.i above.

[A.A.C. R18-2-721.B.2]

- b. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emissions of particulate matter.

[A.A.C. R18-2-721.D]

- c. *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2110-BAG 001 any gases which contain particulate matter or PM₁₀ in excess of 1.71 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material Permit Conditions are indicated by underline and italics]

- d. *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2210-BAG 001 any gases which contain particulate matter or PM₁₀ in excess of 1.44 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material Permit Conditions are indicated by underline and italics]

- e. *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2210-BAG 002 any gases which contain particulate matter or PM₁₀ in excess of 4.94 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material Permit Conditions are indicated by underline and italics]

- f. *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2210-BAG 003 any gases which contain particulate matter or PM₁₀ in excess of 3.22 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material Permit Conditions are indicated by underline and italics]

- g. *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2210-BAG 004 any gases which contain particulate matter or PM₁₀ in excess of 0.96 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material Permit Conditions are indicated by underline and italics]

- h. *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2280-BAG 001 any gases which contain particulate matter or PM₁₀ in excess of 0.41 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material Permit Conditions are indicated by underline and italics]

- i. *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2310-BAG 001 any gases which contain particulate matter or PM₁₀ in excess of 1.37 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material Permit Conditions are indicated by underline and italics]

- j. The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2310-BAG 002 any gases which contain particulate matter or PM₁₀ in excess of 0.41 lb/hr.

[A.A.C. R18-2-306.01 and -331.A.3.a]

[Material Permit Conditions are indicated by underline and italics]

2. Air Pollution Control Equipment

- a. The Permittee shall, to the extent practicable, install, operate and maintain Baghouse 2110-BAG-001 to control particulate matter emissions from Vibrating Grizzly Feeder 2110-GRI 003, Jaw Crusher 2110-CRJ 001, and all material transfers in the primary crushing circuit.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]

[Material Permit Conditions are indicated by underline and italics]

- b. The Permittee shall, to the extent practicable, install, operate and maintain Baghouse 2210-BAG-001 to control particulate matter emissions from Secondary Crushers 2210-CRU 001 and 002, and all material transfers in the secondary crushing circuit.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]

[Material Permit Conditions are indicated by underline and italics]

- c. The Permittee shall, to the extent practicable, install, operate and maintain Baghouse 2210-BAG-002 to control particulate matter emissions from Tertiary Screens 2270-SCN 001, 002, 003 and 004, Tertiary Crushers 2270-CRU 001, 002, 003 and 004, and all material transfers in the tertiary crushing and screening circuit.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]

[Material Permit Conditions are indicated by underline and italics]

- d. The Permittee shall, to the extent practicable, install, operate and maintain Baghouse 2210-BAG-003 to control particulate matter emissions from Secondary Screens 2230-SCN 001 and 002, and all material transfers in the secondary screening circuit.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]

[Material Permit Conditions are indicated by underline and italics]

- e. The Permittee shall, to the extent practicable, install, operate and maintain Baghouse 2210-BAG-004 to control particulate matter emissions from material transfers to Tertiary Crushing Surge Bin 2270-BIN 001 and Secondary Crushing Surge Bin 2210-BIN 001.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]

[Material Permit Conditions are indicated by underline and italics]

- f. The Permittee shall, to the extent practicable, install, operate and maintain Baghouse 2280-BAG-001 to control particulate matter emissions from material transfers from Fine Ore Product Conveyor 2280-CON 001 to Fine Ore Bin Feed Conveyor 2280-CON 002.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]

[Material Permit Conditions are indicated by underline and italics]

- g. The Permittee shall, to the extent practicable, install, operate and maintain Baghouse 2310-BAG-001 to control particulate matter emissions from material transfers in the agglomeration circuit.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]
- h. The Permittee shall, to the extent practicable, install, operate and maintain Baghouse 2310-BAG-002 to control particulate matter emissions from Fine Ore Surge Bin 2310-BIN 001.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]
- i. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2110-WSS-001 to control particulate matter emissions from Scalping Grizzlies 2110-GRI 001 and 2110-GRI 002.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]
- j. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2110-WSS-002 to control particulate matter emissions from Dust Collector 2110-BAG 001.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]
- k. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2110-WSS-003 to control particulate matter emissions from the Primary Crushing Discharge Conveyor.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]
- l. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2130-WSS-001 to control particulate matter emissions from Reclaim Belt Feeders 2130-FDR 001, 002 and 003.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]
- m. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2210-WSS-003 to control particulate matter emissions from Dust Collector 2210-BAG 003.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]
- n. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2210-WSS-001 to control particulate matter emissions from Dust Collector 2210-BAG 001.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]
- o. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2210-WSS-002 to control particulate matter emissions from Dust Collector 2210-BAG 002.
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

- p. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2280-WSS-001 to control particulate matter emissions from Dust Collector 2280-BAG 001.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]

[Material Permit Conditions are indicated by underline and italics]

- q. The Permittee shall, to the extent practicable, install, operate and maintain Water Spray 2310-WSS-001 to control particulate matter emissions from Dust Collector 2310-BAG 001 and from Agglomeration Drum Feeders 2310 FDR 001 and 002.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]

[Material Permit Conditions are indicated by underline and italics]

3. Testing Requirements

- a. Within 180 days after initial startup of the facility, the Permittee shall conduct performance tests in accordance with Section XVIII of Attachment "A" of this permit to show compliance with the emission limits in III.A above.

[A.A.C R18-2-312]

- b. After the initial performance test required in III.A.4.a above, the Permittee shall conduct performance tests every two years for the remainder of the permit term to show compliance with the emission limits in III.A above.

[A.A.C. R18-2-312]

- c. The Permittee shall determine compliance with the PM₁₀ standards in Condition III.A.1.c through j using either Method 201A and Method 202, or Method 5 and Method 202 to measure PM₁₀ emissions.

[A.A.C. R18-2-312]

4. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-721.B, D and F.

[A.A.C. R18-2-325]

B. Opacity

1. Emission Limitations/Standards

- a. The opacity of any plume or effluent from any process source subject to the provisions of this Section shall not be greater than 20%.

[A.A.C. R18-2-702.B.3]

- b. If the presence of uncombined water is the only reason for an exceedance of the visible emissions requirements in III.B.1.a above, the exceedance shall not constitute a violation of the applicable opacity limit.

[A.A.C. R18-2-702.C]

2. Monitoring, Reporting and Recordkeeping Requirements

- a. Within 180 days after initial startup of the facility, the Permittee shall conduct certified Method 9 performance tests in accordance with Section XVIII of Attachment A of this permit for the process sources covered by this Section while operating at normal representative working conditions, to establish a baseline opacity level. Within 30 days of establishing baseline opacity, the Permittee shall report the results to the Director.
[A.A.C. R18-2-306.A.3.c]
- b. A certified Method 9 observer shall conduct a bi-weekly (once every two weeks) visual survey of visible emissions from the stacks associated with the process sources covered by this Section when they are in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
[A.A.C. R18-2-306.A.3.c]
- c. If the observer sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall take a six-minute EPA Method 9 observation of the plume.
[A.A.C. R18-2-306.A.3.c]
- d. If the six-minute opacity of the plume is less than the baseline opacity, the observer shall make a record of the following:
 - i. Location, date, and time of the observation; and
 - ii. The results of the Method 9 observation.
[A.A.C. R18-2-306.A.3.c]
- e. If the six-minute opacity of the plume exceeds the baseline level but is less than the applicable opacity standard, the Permittee shall adjust or repair the controls or process equipment to reduce the observed opacity to or below the baseline opacity level. The observer shall make a record of the following:
 - i. Location, date, and time of the observation;
 - ii. The results of the Method 9 observation;
 - iii. Date and time when corrective action was taken; and
 - iv. Type of corrective action taken.
[A.A.C. R18-2-306.A.3.c]
- f. If the six-minute opacity of the plume exceeds the applicable opacity standard, then the Permittee shall do the following:

- i. Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and
- ii. Report it as an excess emission for opacity.

[A.A.C. R18-2-306.A.3.c]

- g. If necessitated by the results of the bi-weekly monitoring, the Permittee may re-establish the baseline opacity level(s). Re-establishment of the baseline(s) shall be performed utilizing the same procedures used in setting up the initial baseline level(s). Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline(s).

[A.A.C. R18-2-306.A.3.c]

3. Testing Requirements

The Permittee shall conduct annual six-minute EPA Method 9 opacity observations on all emission units covered by this Section.

[A.A.C. R18-2-306.A.3.c]

4. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-702.B.3 and C.

[A.A.C. R18-2-325]

IV. SOLUTION EXTRACTION/ELECTROWINNING PROCESS (SX/EW)

A. Emission Limitations/Standards

1. The Permittee shall not cause or permit the emission of gaseous or odorous materials from equipment and operations associated with the SX/EW process in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

2. Materials including solvents or other volatile compounds, acids and alkalis utilized in the SX/EW process shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices or other equipment shall be mandatory.

[A.A.C. R18-2-730.F]

3. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by the Permittee to

a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

B. Air Pollution Control Requirements

1. Permittee shall install, maintain and use covers on the mixer settler tanks to control emissions from the Solution Extraction Plant.

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]

[Material permit conditions are indicated by underline and italics]

2. Permittee shall use one or more of the following methods to control emissions from the Electrowinning Tankhouse:

- a. Foam
- b. Blankets
- c. Surfactants
- d. Brushes
- e. Thermal retention balls
- f. Water foggers
- g. Other effective means of controlling sulfuric acid emissions approved by the Director.

[A.A.C. R18-2-306.A.2 and -331.A.3.e]

[Material permit conditions are indicated by underline and italics]

C. Monitoring, Reporting and Recordkeeping Requirements

The Permittee shall maintain a record of all control measures used to limit emissions from the SX/EW process.

[A.A.C. R18-2-306.A.3.c]

D. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-730.D, F and G.

[A.A.C. R18-2-325]

V. FUEL-BURNING EQUIPMENT

This section applies to the electrolyte heaters.

A. Fuel Limitations

The Permittee shall burn only propane in the electrolyte heaters.

[A.A.C.R18-2-306.01]

B. Particulate Matter

1. Emission Limitation

The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from the electrolyte heaters in excess of the amounts calculated by the following equation:

$$E = 1.02Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

Q = the heat input in million Btu per hour.

[A.A.C.R18-2-724.C.1]

2. Permit Shield

Compliance with this Part shall be deemed compliance with the following applicable requirement as of the issuance date of this permit: A.A.C.R18-2-724.C.1.

[A.A.C. R18-2-325]

C. Opacity Standards

1. Emission Limitations

Permittee shall not cause, allow or permit the opacity of any plume or effluent from the electrolyte heaters to exceed 15 percent.

[A.A.C.R18-2-724.J]

2. Monitoring, Recordkeeping and Reporting Requirements

a. Permittee shall report all six-minute periods in which the opacity of any plume or effluent exceeds 15 percent.

[A.A.C.R18-2-724.J]

b. A certified EPA Reference Method 9 observer shall conduct an annual survey of visible emissions emanating from the stacks of the electrolyte heaters when in operation. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, location of observer, name of observer, date and time of observation, and

the results of the observation. If the observation shows a Method 9 opacity reading in excess of 15%, the Permittee shall report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 15%. The Permittee shall keep a record of the corrective action performed.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with this Part shall be deemed compliance with the following applicable requirement as of the issuance date of this permit: A.A.C.R18-2-724.J.

[A.A.C. R18-2-325]

VI. INTERNAL COMBUSTION ENGINES

This section applies to the Standby Generators and the Fire Water Pump Engine.

A. Engine Limitations

1. Fuel Limits

a. The Permittee shall only burn diesel fuel in the internal combustion engines.

b. *The Permittee shall limit the hours of operation for each internal combustion engine to no more than 375 hours in any rolling 12-month period.*

[A.A.C. R18-2-306.A.2 and -331.A.3.a]

[Material permit conditions are indicated by italics and underline]

2. Recordkeeping

The Permittee shall keep records of the rolling 12-month total hours of operation for each internal combustion engine to demonstrate compliance with the hours limitation in Condition VI.A.1.b above.

[A.A.C. R18-2-306.A.3.c]

B. Opacity

1. Emission Limitation

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any internal combustion engine, smoke for any period greater than ten consecutive seconds, which exceeds 40 percent opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C.R18-2-719.E]

2. Monitoring and Recordkeeping

A certified EPA Reference Method 9 observer shall conduct a monthly survey of

visible emissions emanating from the stacks of the internal combustion engines in operation.

- a. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation.
 - i. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed.
 - ii. These records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation.
- b. If the observation shows a Method 9 opacity reading in excess of 40%,
 - i. The Permittee shall report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 40%.
 - ii. The Permittee shall keep a record of the corrective action performed.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-719.E.

[A.A.C. R18-2-325]

C. Particulate Matter

1. Emission Limitations/Standards

- a. For the purpose of this Section, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The total heat input of all operating internal combustion engines on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

[A.A.C. R18-2-719(B)]

- b. The Permittee shall not cause, allow, or permit the emission of particulate matter, caused by combustion of fuel, from any internal combustion engine in excess of the amount calculated by the following equation:

$$E = 1.02 Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds mass per hour

Q = the heat input in million Btu per hour

[A.A.C. R18-2-719.C.1]

2. Monitoring, Reporting, and Record Keeping

The Permittee shall keep records of fuel supplier certifications to demonstrate compliance with the PM limit specified in Condition VI.C.1 above. The certification shall contain information regarding the heating value of the fuel.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-719.C.1.

[A.A.C. R18-2-325]

D. Sulfur Dioxide

1. Emission Limitations/Standards

a. The Permittee shall not emit or cause to emit more than 1.0 pound of sulfur dioxide per million Btu heat input when low sulfur fuel is fired.

[A.A.C. R18-2-719.F]

b. The Permittee shall not fire high sulfur fuel (greater than 0.9 percent sulfur in fuel) in the internal combustion engines.

[A.A.C. R18-2-719.H]

2. Monitoring, Reporting, and Record Keeping

a. The Permittee shall keep records of fuel supplier certifications to demonstrate compliance with the sulfur content limit specified in Condition VI.D.1.b above.

[A.A.C. R18-2-306.A.3.c]

b. The Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in the internal combustion engines exceeds 0.8%.

[A.A.C. R18-2-719.J]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-719.F, H, & J.

[A.A.C. R18-2-325]

VII. GASOLINE STORAGE AND DISPENSING

A. Standards and Limitations

1. All gasoline storage tanks shall be equipped with a submerged filling device, or acceptable equivalent, for the control of hydrocarbon emissions.
[A.A.C. R18-2-710.B]
2. All pumps and compressors which handle volatile organic compounds (VOCs) shall be equipped with mechanical seals or other equipment of equal efficiency to prevent the release of organic contaminants into the atmosphere.
[A.A.C. R18-2-710.D]
3. The Permittee shall install, operate and maintain gasoline storage tanks in accordance with manufacturer's specifications.
[A.A.C. R18-2-306.A.2 and -331.A.3.e]
[Material Permit Conditions are indicated by underline and italics]

B. Monitoring and Recordkeeping Requirements

The Permittee shall maintain a storage tank log showing the following:

1. Information from the Product Transfer Documents including the petroleum type, delivery date, and quantity (in gallons) of all fuels delivered;
 2. Tank identification; and
 3. The dates on which each tank is empty.
- [A.A.C. R18-2-710.E.1]

C. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable requirements as of the issuance date of this permit: A.A.C. R18-2-710.B, D and E.1.

[A.A.C. R18-2-325]

VIII. DIESEL STORAGE VESSELS

This section applies to diesel storage tanks with a capacity greater than 40,000 gallons.

- A. The Permittee shall not emit gaseous or odorous materials from the diesel storage tanks in such quantities or concentrations as to cause air pollution.
[A.A.C. R18-2-730.D]
- B. Materials including solvents or other volatile compounds, paints, acids, alkalis, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation,

leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory.

[A.A.C. R18-2-730.F]

- C. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by the Permittee to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

D. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable requirements as of the issuance date of this permit: A.A.C. R18-2-730.D, F and G.

[A.A.C. R18-2-325]

IX. FUGITIVE DUST SOURCES

This Section applies to open areas, dry washes, riverbeds, roadways, streets, material handling operations, and storage piles.

A. Emission Limitations/Standards

1. The Permittee shall not cause, allow or permit visible emissions from open areas, roadways and streets, storage piles or material handling in excess of 40 percent opacity measured in accordance with the Arizona Testing Manual, Reference Method 9.

[A.A.C. R18-2-612]

2. The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

- a. Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means;

[A.A.C. R18-2-604.A]

- b. Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means;

[A.A.C. R18-2-604.B]

- c. Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway is repaired, constructed, or reconstructed;
[A.A.C. R18-2-605.A]
- d. Keep dust and other particulates to a minimum by employing reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust;
[A.A.C. R18-2-605.B]
- e. Keep dust and other particulates to a minimum by employing reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, handling, or conveying material likely to give rise to airborne dust;
[A.A.C. R18-2-606]
- f. The Permittee shall not cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne.
[A.A.C. R18-2-607.A]
- g. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.
[A.A.C. R18-2-607.B]
- h. Any other method as proposed by the Permittee and approved by the Director.
[A.A.C. R18-2-306.A.2]
3. The Permittee shall comply with the provisions of the approved Dust Control Plan.
[A.A.C. R18-2-306.A.2]

B. Air Pollution Control Requirements

Haul Roads and Storage Piles

Water, or an equivalent control, shall be used to control visible emissions from haul roads and storage piles.

[A.A.C. R-18-2-306.A.2 and -331.A.3.d]

[Material Permit Condition is indicated by underline and italics]

C. Monitoring and Recordkeeping

1. The Permittee shall keep records when the reasonable precautions outlined in IX.A.2.a through h are employed.
[A.A.C. R18-2-306.A.3.c]

2. Visible Emissions Monitoring

- a. A certified Method 9 observer shall conduct a bi-weekly (once every two weeks) visual survey of visible emissions from all fugitive dust sources. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
[A.A.C. R18-2-306.A.3.c]
- b. If the observer sees a plume that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall, if possible, take a six-minute EPA Method 9 observation of the plume.
[A.A.C. R18-2-306.A.3.c]
- c. If the six-minute opacity of the plume is less than the applicable opacity standard, the observer shall make a record of the following:
 - i. Location, date, and time of the observation; and
 - ii. The results of the Method 9 observation.
[A.A.C. R18-2-306.A.3.c]
- d. If the six-minute opacity of the plume exceeds the applicable opacity standard, then the Permittee shall do the following:
 - i. Adjust or repair the controls or equipment to reduce opacity to or below the applicable standard; and
 - ii. Report it as an excess emission for opacity.
[A.A.C. R18-2-306.A.3.c]

D. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-604A, A.A.C. R18-2-604B, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, and A.A.C. R18-2-612.

[A.A.C. R18-2-325]

X. MOBILE SOURCES

The requirements of this section are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.89.

[A.A.C. R18-2-801.A]

A. Emission Limitations/Standards

1. Unless otherwise specified, no mobile source shall emit smoke or dust the opacity of which exceeds 40%.

[A.A.C. R18-2-801.B]

2. Off Road Machinery

- a. The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-802.A]

- b. Off-road machinery shall include trucks, graders, scrapers, rollers, locomotives and other construction and mining machinery not normally driven on a completed public roadway.

[A.A.C. R18-2-802.B]

3. Roadway and Site Cleaning Machinery

- a. The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-804.A]

- b. In addition to complying with X.A.3.a, the Permittee shall not cause, allow or permit the cleaning of any site, roadway or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

[A.A.C. R18-2-804.B]

B. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-801, A.A.C. R18-2-802 and A.A.C. R18-2-804.

[A.A.C. R18-2-325]

XI. ABRASIVE BLASTING

- A.** The Permittee shall not cause or permit sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices.

Examples of good modern practices include wet blasting and the use of effective enclosures with necessary dust collecting equipment.

[A.A.C. R18-2-726]

B. Opacity

The opacity of any plume from abrasive blasting operations shall not be greater than 20%.

[A.A.C. R18-2-702.B.1]

C. Monitoring and Recordkeeping

Each time an abrasive blasting project is conducted, the Permittee shall log in ink or unchangeable electronic format, a record of the following:

1. The date the project was conducted.
2. The duration of the project.
3. Type of control measures employed.

[A.A.C. R18-2-306.A.3.c]

D. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable provision as of the issuance date of this permit: A.A.C. R18-2-726 and -702.B.1.

[A.A.C. R18-2-325]

XII. SPRAY PAINTING OPERATIONS

A. Emission Limitations/Standards

1. The Permittee shall not conduct any spray paint operation without minimizing organic solvent emissions. Such operations other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96% of the overspray.

[A.A.C. R18-2-727.A]

2. The Permittee shall not:

- a. Employ, apply, evaporate or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes.
- b. Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C. R18-2-727.B]

3. For purposes of XII.A.2, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds classified in XII.A.3.a through c below, or which exceeds

any of the following percentage composition limitations, referred to the total volume of solvent:

- a. A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation – hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones – 5%.
- b. A combination of aromatic compounds with 8 or more carbon atoms to the molecule except ethylbenzene – 8%.
- c. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene – 20%.

[A.A.C. R18-2-727.C]

4. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in XII.A.3.a through c above, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C. R18-2-727.D]

5. The Permittee shall not dispose by evaporation more than 1.5 gallons of photochemically reactive solvent in any one day.

[SIP Provision R9-3-527.C]

B. Monitoring and Record Keeping

1. Each time a spray painting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:
 - a. The date the project was conducted.
 - b. The duration of the project.
 - c. Type of control measures employed.
 - d. Reference to the onsite location of Material Safety Data Sheets for all paints and solvents used in the project.

[A.A.C. R18-2-306.A.3.c]

2. The Permittee shall maintain records on site for a minimum of five years.

[A.A.C. R18-2-306.A.4.b]

3. Architectural coatings and spot painting projects shall be exempt from the recordkeeping requirements in XII.B.1 and 2 above.

[A.A.C. R18-2-727.A]

C. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-727 and SIP Provision R9-3-527-C.

[A.A.C. R18-2-325]

ATTACHMENT “C”: EQUIPMENT LIST

Air Quality Control Permit No. 38109

For

Phelps Dodge Safford, Inc.

EQUIPMENT TYPE	NOMINAL CAPACITY	MAKE	MODEL	EQUIPMENT ID NUMBER	DATE OF MFG.
Primary Crushing					
12” Scalping Grizzly	3,400 tph	TBD	TBD	2110-GRI 001	N/A
12” Scalping Grizzly	3,400 tph	TBD	TBD	2110-GRI 002	N/A
1,050-ton Undersized Surge Bin	3,400 tph	TBD	TBD	2110-BIN 001	N/A
1,050-ton Undersized Surge Bin	3,400 tph	TBD	TBD	2110-BIN 002	N/A
230-ton Oversized Surge Bin	3,400 tph	TBD	TBD	2110-BIN 003	N/A
Vibrating Grizzly Feeder	2,700 tph	TBD	TBD	2110-GRI 003	N/A
48” x 60” Jaw Crusher	1,150 tph	TBD	TBD	2110-CRJ 001	N/A
72” Grizzly Undersize Belt Feeder	3,400 tph	TBD	TBD	2110-FDR 001	N/A
72” Grizzly Undersize Belt Feeder	3,400 tph	TBD	TBD	2110-FDR 002	N/A
60” Primary Crushing Discharge Conveyor	7,650 tph	TBD	TBD	2120-CON 001	N/A
Dust Collector	25,000 CFM	TBD	TBD	2110-BAG 001	N/A
Coarse Ore Stockpile					
72” Coarse Ore Reclaim Belt Feeder	3,400 tph	TBD	TBD	2130-FDR 001	N/A
72” Coarse Ore Reclaim Belt Feeder	3,400 tph	TBD	TBD	2130-FDR 002	N/A
72” Coarse Ore Reclaim Belt Feeder	3,400 tph	TBD	TBD	2130-FDR 003	N/A
60” Coarse Ore Reclaim Conveyor	6,800 tph	TBD	TBD	2140-CON 001	N/A

EQUIPMENT TYPE	NOMINAL CAPACITY	MAKE	MODEL	EQUIPMENT ID NUMBER	DATE OF MFG.
Secondary Crushing and Screening					
400-ton Secondary Screen Surge Bin	6,800 tph	TBD	TBD	2230-BIN 001	N/A
72" Secondary Screen Belt Feeder	3,400 tph	TBD	TBD	2230-FDR 001	N/A
72" Secondary Screen Belt Feeder	3,400 tph	TBD	TBD	2230-FDR 002	N/A
12' x 27' Secondary Double Deck Banana Screen	3,400 tph	TBD	TBD	2230-SCN 001	N/A
12' x 27' Secondary Double Deck Banana Screen	3,400 tph	TBD	TBD	2230-SCN 002	N/A
60" Secondary Crushing Plant Feed Conveyor	5,000 tph	TBD	TBD	2240-CON 001	N/A
500-ton Secondary Crushing Surge Bin	2,500 tph	TBD	TBD	2210-BIN 001	N/A
72" Secondary Crusher Belt Feeder	2,500 tph	TBD	TBD	2210-FDR 001	N/A
72" Secondary Crusher Belt Feeder	2,500 tph	TBD	TBD	2210-FDR 002	N/A
MP1000 STD Secondary Crusher	2,500 tph	TBD	TBD	2210-CRU 001	N/A
MP1000 STD Secondary Crusher	2,500 tph	TBD	TBD	2210-CRU 002	N/A
60" Secondary Crushing Discharge Conveyor	5,000 tph	TBD	TBD	2220-CON 001	N/A
72" Secondary Crushing Discharge Conveyor	5,000 tph	TBD	TBD	2220-CON 002	N/A
Dust Collector	47,000 cfm	TBD	TBD	2210-BAG 003	N/A
Dust Collector	21,000 cfm	TBD	TBD	2210-BAG 001	N/A
Tertiary Crushing and Screening					
Tertiary Crushing Plant Feed Conveyor	6,800 tph	TBD	TBD	2260-CON 001	N/A
Tertiary Tripper	6,800 tph	TBD	TBD	2260-TRP 001	N/A
3,500-ton Tertiary Crushing Surge Bin	7,400 tph	TBD	TBD	2270-BIN 001	N/A

EQUIPMENT TYPE	NOMINAL CAPACITY	MAKE	MODEL	EQUIPMENT ID NUMBER	DATE OF MFG.
72" Tertiary Crusher Belt Feeder	1,850 tph	TBD	TBD	2270-FDR 001	N/A
72" Tertiary Crusher Belt Feeder	1,850 tph	TBD	TBD	2270-FDR 002	N/A
72" Tertiary Crusher Belt Feeder	1,850 tph	TBD	TBD	2270-FDR 003	N/A
72" Tertiary Crusher Belt Feeder	1,850 tph	TBD	TBD	2270-FDR 004	N/A
12' x 27' Tertiary Single Deck Banana Screen	1,850 tph	TBD	TBD	2270-SCN 001	N/A
12' x 27' Tertiary Single Deck Banana Screen	1,850 tph	TBD	TBD	2270-SCN 002	N/A
12' x 27' Tertiary Single Deck Banana Screen	1,850 tph	TBD	TBD	2270-SCN 003	N/A
12' x 27' Tertiary Single Deck Banana Screen	1,850 tph	TBD	TBD	2270-SCN 004	N/A
MP1000 S.H. Tertiary Crusher	1,850 tph	TBD	TBD	2270-CRU 001	N/A
MP1000 S.H. Tertiary Crusher	1,850 tph	TBD	TBD	2270-CRU 002	N/A
MP1000 S.H. Tertiary Crusher	1,850 tph	TBD	TBD	2270-CRU 003	N/A
MP1000 S.H. Tertiary Crusher	1,850 tph	TBD	TBD	2270-CRU 004	N/A
60" Tertiary Screening Reclaim Conveyor	5,000 tph	TBD	TBD	2270-CON 001	N/A
72" Tertiary Screening Transfer Conveyor	5,000 tph	TBD	TBD	2270-CON 002	N/A
60" Fine Ore Product Conveyor	6,800 tph	TBD	TBD	2280-CON 001	N/A
Dust Collector	14,000 cfm	TBD	TBD	2210-BAG 004	N/A
Dust Collector	72,000 cfm	TBD	TBD	2210-BAG 002	N/A
Dust Collector	6,000 cfm	TBD	TBD	2280-BAG-001	N/A
Fine Ore and Agglomeration Handling					
60" Fine Ore Bin Feed Conveyor	6,800 tph	TBD	TBD	2280-CON 002	N/A

EQUIPMENT TYPE	NOMINAL CAPACITY	MAKE	MODEL	EQUIPMENT ID NUMBER	DATE OF MFG.
6,800-ton Fine Ore Surge Bin	6,800 tph	TBD	TBD	2310-BIN 001	N/A
72" Agglomeration Drum Feeder	3,400 tph	TBD	TBD	2310-FDR 001	N/A
72" Agglomeration Drum Feeder	3,400 tph	TBD	TBD	2310-FDR 002	N/A
60" Agglomeration Feed Conveyor	3,400 tph	TBD	TBD	2320-CON 001	N/A
60" Agglomeration Feed Conveyor	3,400 tph	TBD	TBD	2330-CON 001	N/A
15' x 45' Agglomeration Drum	3,400 tph	TBD	TBD	2340-AGG 001	N/A
15' x 45' Agglomeration Drum	3,400 tph	TBD	TBD	2340-AGG 002	N/A
Bin Vent Dust Collector	6,000 cfm	TBD	TBD	2310-BAG 002	N/A
Dust Collector	20,000 cfm	TBD	TBD	2310-BAG 001	N/A
Agglomeration Discharge and Heap Leach Conveyors					
60" Agglomeration Discharge Conveyor	6,800 tph	TBD	TBD	2350-CON 001	N/A
60" Overland Conveyor	6,800 tph	TBD	TBD	2360-CON 001	N/A
60" Crawler Mounted Mobile Tripper	6,800 tph	TBD	TBD	2360-TRP 001	N/A
72" Overland Tripper Conveyor	6,800 tph	TBD	TBD	2370-CON 001	N/A
72" Ramp Portable Conveyor	6,800 tph	TBD	TBD	2410-CON 001	N/A
72" Ramp Portable Conveyor	6,800 tph	TBD	TBD	2410-CON 002	N/A
72" Ramp Portable Conveyor	6,800 tph	TBD	TBD	2410-CON 003	N/A
72" Ramp Portable Conveyor	6,800 tph	TBD	TBD	2410-CON 004	N/A
72" Ramp Portable Conveyor	6,800 tph	TBD	TBD	2410-CON 005	N/A
72" Super Portable Conveyor	6,800 tph	TBD	TBD	2420-CON 001	N/A
72" Super Portable Conveyor	6,800 tph	TBD	TBD	2420-CON 002	N/A

EQUIPMENT TYPE	NOMINAL CAPACITY	MAKE	MODEL	EQUIPMENT ID NUMBER	DATE OF MFG.
72" Super Portable Conveyor	6,800 tph	TBD	TBD	2420-CON 003	N/A
72" Super Portable Conveyor	6,800 tph	TBD	TBD	2420-CON 004	N/A
72" Super Portable Conveyor	6,800 tph	TBD	TBD	2420-CON 005	N/A
72" Super Portable Tripper Conveyor	6,800 tph	TBD	TBD	2440-CON 001	N/A
72" Radial Stacker	6,800 tph	TBD	TBD	2450-STA 001	N/A
Electrowinning Equipment					
Electrowinning Tankhouse	125,000 tons per year	TBD	TBD	EWTANK	N/A
Propane Hot Water Heater	8.4 MMBtu/hr	TBD	TBD	PHWH1	N/A
Propane Hot Water Heater	8.4 MMBtu/hr	TBD	TBD	PHWH2	N/A
Propane Hot Water Heater	8.4 MMBtu/hr	TBD	TBD	PHWH3	N/A
Auxiliary Equipment					
Emergency Generator for Raffinate Pump	2,000 kW	Caterpillar	3516B	3310-GEN 001	N/A
Emergency Generator for Raffinate Pump	2,000 kW	Caterpillar	3516B	3310-GEN 002	N/A
Emergency Generator for South Raffinate Booster Pump	1,750 kW	Caterpillar	3516	3310-GEN 003	N/A
Emergency Generator for South Raffinate Booster Pump	1,750 kW	Caterpillar	3516	3310-GEN 004	N/A
Emergency Generator for North Raffinate Booster Pump	1,400 kW	Caterpillar	3516	3310-GEN 005	N/A
Emergency Generator for Storm Water Pumps	400 kW	Caterpillar	3456	3320-GEN 001	N/A
Emergency Generator for PLS Pumps	1,000 kW	Caterpillar	3508B	3320-GEN 002	N/A

EQUIPMENT TYPE	NOMINAL CAPACITY	MAKE	MODEL	EQUIPMENT ID NUMBER	DATE OF MFG.
Fire Water Pump	200 hp	John Deere	UL/FM, JU6H- UF60	FIREWP	N/A
Diesel Fuel Storage Tank	175,000 gal	TBD	TBD	DSLTKN	N/A